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C. L. Telleen

Iowa State College

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Colt Born With Bovine Foot

C. L. TELLEEN

On November 10, 1938, a purebred Percheron filly, seven months of age, owned by S. S. Hansen of Nevada, Iowa, was presented at the Iowa State College Veterinary Clinic for examination.

This colt possessed two fully and equally developed hoofs on the right front foot. By palpation the second and fourth metacarpals or splint bones were found normal. The distal end of the large third metacarpal bone was enlarged to articulate with what seemed to be two first phalanges that were fused proximally and distinctly separated distally. An excessive dorsal flexion of the fetlock and pastern joints, which was probably due to a weakness and perhaps even a complete absence of parts of the flexor tendons or suspensory ligaments, caused the colt to stand on the volar surface of the second phalanges or smaller pastern bones. The hair on these surfaces was worn off and the epithelium was thickened so that it resembled the pads on the feet of carnivores.

The two hoofs were fully developed but smaller than a normal hoof and then extended forward so that the bulbs of the hoofs rather than the soles contacted the ground. The toes were very long and turned up in a manner which made the whole foot appear truly bovine. The long bones of the right front limb corresponded in length to the bones of the left leg.

Normal Gait

The shortness of the right leg due to the excessive dorsal flexion of the fetlock and

pastern joints was compensated for so well by the exaggerated extension of the shoulder and elbow joints that the colt walked with an unhampered and even gait.

There is some dispute as to a satisfac-

tory explanation for this hypergenetic teratism. The evolution of the horse dates back about forty million years or so to the Eocene period. In this period a prehistoric horse known as the Eohippus was living in North America. This early form was the ancestor to the present day equines and also a possible ancestor of the ant-eaters and rhinoceroses. This animal stood about twelve inches high and possessed a very short



head and neck. The Eohippus had three functional toes that reached all the way to the ground on all four feet. It also possessed rudimentary splint bones representing the first toes medially on the hind feet and also splint bones which represented fifth toes laterally on both fore and hind feet.

This prehistoric horse made rapid strides in the next ten million years and by the Oligocene period attained a height of 18 inches. The middle toe became distinctly longer.

In another ten million years or so the Miocene animal evolved and this type retained the vestiges of a fifth toes which was present in some specimens and absent in others. Two important developments were made in this period. The weight of this animal was carried on the middle or third toe of each foot and the two lateral

toes were much reduced in size and did not touch the ground.

Becomes Grazer

This *Miohippus* also possessed permanent teeth that had moderately high crowns with flat grinding surfaces marked by sharp ridges to dentine instead of the tendency toward cusps as the molars of the earlier equine ancestors. This undoubtedly changed this animal to a grazing beast rather than one that fed upon succulent herbage which was crushed instead of ground.

The *Pliohippus*, the most recent ancestor of the horse and the one developed from the preceding *Miohippus*, appeared upon the face of the earth sometime within the last twenty million years. In this member the lateral toes had completely disappeared and nothing remained but two long splint bones. The *Pliohippus* was the first one-toed horse and resembled the present day equine. It stood about 48 inches high.

Lavocat, a French teratologist, believes that colts such as this one presented at the Iowa State Clinic are examples of a reversion to the primitive three-toed horse in which only the third and fourth toes have developed as in ruminants.

Lesbre believes that this condition is not a reversion to type but rather an embryological defect in which the third digit has divided into two digits just as is quite frequently evidenced in the human family in which individuals are born with two thumbs or supernumerary fingers on one hand.

In the Anatomy Museum of the Iowa State College Veterinary Division is a specimen of the foot of a horse that has a well developed third toe with a rudimentary medial toe just as the *Miohippus* possessed.

OBSTETRICIAN

Willis Liebsch has advanced the science of obstetrics far beyond the realm of his co-workers by the palpation of male gametes during their bold rush through the fallopian tubes of the bovine.

DR. AITKEN ADVISES SENIORS

In an hour which seemed much too short to his audience, Dr. W. A. Aitken, general practitioner of Merrill, Iowa, gave the senior class pertinent advice on the problems confronting those establishing themselves in the field of general practice. Dr. Aitken met the forty-seven seniors November 18, being the first of a number of practitioners scheduled to speak to the graduating class.

"The choice of a field is entirely up to the individual and no one can advise you what branch of veterinary medicine to elect," said Dr. Aitken. "However, if you value regular hours and are not in good health, think twice before going into general practice."

Dr. Aitken pointed out several important factors to consider in selecting a location. The livestock population, kind of livestock, percentage of landowners, size of the territory and the competition must all be taken into consideration.

"For building a practice," stated Dr. Aitken, "three things are essential—credit, veracity, and service. Establish your credit in the community, make your clients know that they can rely absolutely on your word, and give them the best service that you are capable of rendering.

"Don't just live in a community—be a part of it. Enter into 4-H work and Boy Scout programs. Cooperate with your county agent."

When asked about fees, Dr. Aitken replied that in establishing charges for services rendered, a fair price is always essential.

"If you give him good service and charge a fair price—you'll get your money," the doctor concluded.

EAR TEETH OLD STUFF

Ear-teeth are old stuff to Lightbody. It's rectal teeth that are causing him a lot of worry. His hands are invariably stained with blood following obstetrical examinations.